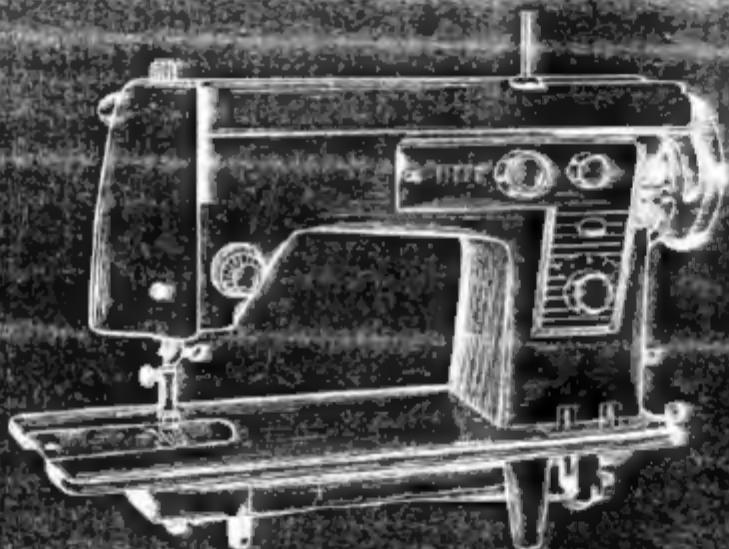


DE LUXE ZIG-ZAG

MZ

Sewing machine

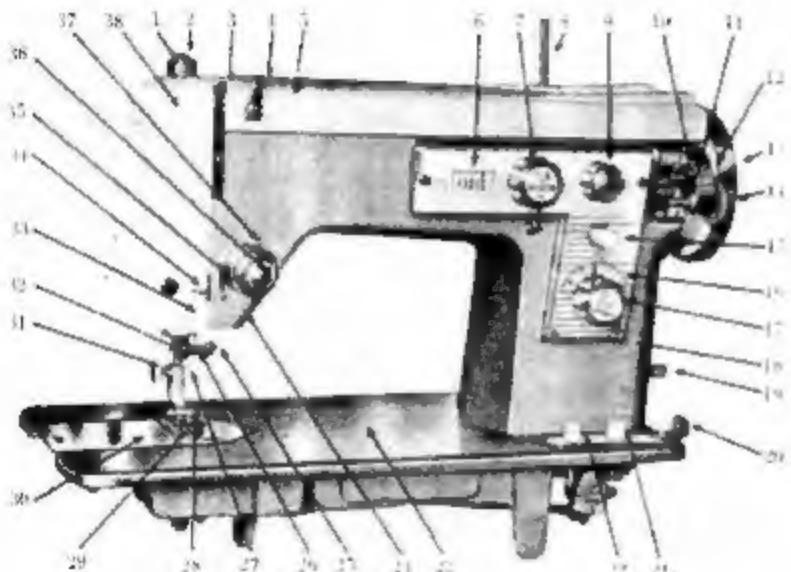


INSTRUCTION BOOK

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Features and Parts



| | |
|--------------------------|--------------------------------|
| 1-2 Pushbutton darning | 8 Spool pin |
| 3 Thread take up lever | 9 Zigzag width limiting dial |
| 4 Upper arm thread guide | 10 Bobbin winder release lever |
| 5 Arm cover | 11 Bobbin winder shaft |
| 6 Zigzag width indicator | 12 Bobbin winder push plate |
| 7 Zigzag width dial | 13 Balance wheel (hand wheel) |

| |
|-----------------------------------|
| 14 Bobbin winder rubber wheel |
| 15 Pushbutton stitch reverse |
| 16 Stitch length indicator |
| 17 Stitch length dial |
| 18 Vertical arm |
| 19 Sewlight switch knob |
| 20 Bobbin winder thread guide |
| 21-22 Pushbutton drop feed |
| 23 Bed-plate |
| 24 Vertical arm |
| 25 Needle clamp screw |
| 26 Needle clamp |
| 27 Needle |
| 28 Hinged presser foot |
| 29 Feed dog |
| 30 Slide plate |
| 31 Presser foot thumb screw |
| 32 Presser bar |
| 33-34 Face plate thread guide |
| 35 Thread retainer bar |
| 36 Calibrated thread tension dial |
| 37 Thread take-up spring |

NEEDLE AND THREAD SIZES (USE 15×1 NEEDLE ONLY)

| Sizes & Grades of Needles | Type of Fabric and Work to be Done | SIZE OF THREAD | | |
|---------------------------|--|-----------------|----------------|----------------|
| | | Cotton | Silk | Linen |
| 0 or 11 (Medium-Fine) | Medium light-weight and summertime fabrics. For house dresses, children's dresses, washable cotton dresses, aprons, curtains. | 80 to 100 | 0 Twist | |
| ½ or 14 (Medium) | Dress silks and cottons, light weight woolens, draperies, fabric furnishings. For general household sewing, fine men's shirts, smocks, window draperies and fabric decorations. | 60 to 80 | A & B Twist | |
| 1 or 16 (Light-Heavy) | Heavy cretonne, madras, muslin, brocades and quilts. For men's work shirts, sturdy smocks and aprons, heavy quilting and fabric furnishings. | 40 to 60 | C Twist | |
| 2 or 18 (Medium-Heavy) | Heavy woven coating, light weight canvas, bed ticking, upholstery and awning materials, slipcover fabrics. For work or sports uniforms, suits made of strong linen or cotton fabrics, awnings, slip covers and mattressess. | 30 to 60 | D Twist | |
| 3 or 19 (Heavy) | Heavy woven suiting, coating, duck, ticking, drilling, canvas and sacking. For heavy wash uniform, bedding supplies for hospitals, hotels and camps. | 10 to 30 | E Twist | 60 to 80 |
| 4 or 21 (Extra-Heavy) | For bags, canvas, coarse cloths and heavy goods. | Very Coarse | | 40 to 60 |

Sewlight

The lamp housing is located at the front side of the arm under the face plate (Fig. 1).

The light switch knob is located at the right side of the vertical arm. To switch on the light turn the light-switch knob clockwise or counter-clockwise. To switch off the light turn the light-switch knob clockwise or counter-clockwise. In order to replace a burnt out bulb with a new one, open the hinged face plate, unscrew the old bulb and screw in a new one. Bulbs(15w) may be obtained at dealers, department stores and electrical stores.

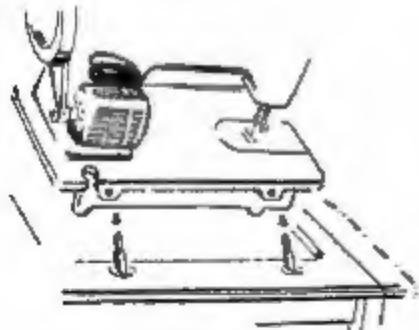


Fig. 2

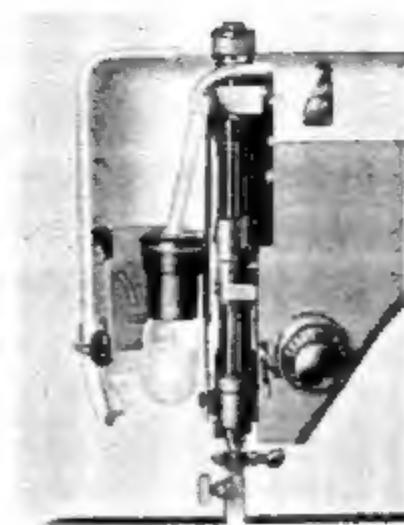


Fig. 1



Sewlight Switch knob

Installing Head into Cabinet

1. Loosen the two hinge screws under the holes in the rear edge of the machine bed. (Fig. 3)
2. Raise hinge pins in the cabinet cutout. Slip machine head on to the pins and tighten hinge screws securely.
3. Lower machine head to front cabinet flap.

Setting the Needle

See Fig. 2. Raise the needle bar to its highest point, turning wheel toward you by hand.

Then loosen the needle clamp screw and the needle can be inserted into clamp. Place needle (flat side to right) in the needle clamp and push it upward as far as it will go into the needle clamp hole, tightening the needle clamp screw securely with a screw driver.

Winding the Bobbin

Disengage the hand wheel (Fig. 3) from the stitching mechanism by turning the clutch toward you or counter-clockwise.

Place a spool of thread on the spool pin, lead thread through the upper thread guide on the arm, and down through the tension disc (Fig. 4) at the base of the machine. Run end of thread through a hole in the bobbin edge and place bobbin on spindle of bobbin winder, fitting the notch on bobbin over small pin on spindle. Push bobbin winder against hand wheel. Hold thread end loosely and start machine slowly.

Bobbin will stop winding when it is filled. Turn clutch away from you until sewing mechanism is again engaged so that needle moves when you turn the hand wheel.

Break off loose thread end used to start the winding.

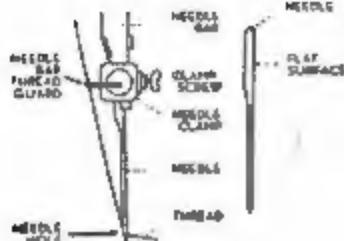


Fig. 2



Fig. 3

Threading the Bobbin Case

Step 1 (illustrated in Fig. 5). Hold bobbin case between thumb and forefinger of left hand, so that the slot in the edge of the bobbin case is on top. Take the bobbin between thumb and forefinger of right hand so that the thread on top leads from left to right.

Step 2. Insert bobbin into bobbin case, pull the thread into the slot of the bobbin case as shown in Fig. 6, and draw it under the tension spring and into the fork-shaped opening of the spring as shown in Fig. 7.

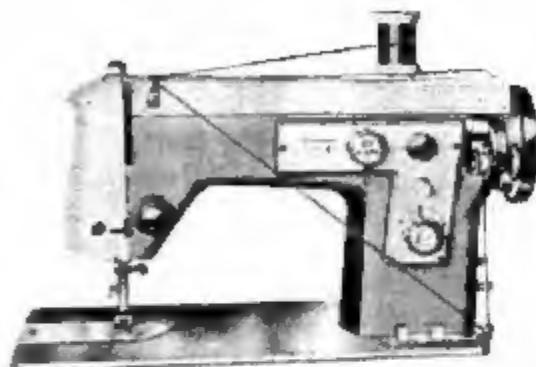


Fig. 4



Fig. 5



Fig. 6



Fig. 7

Placing Bobbin Case in Shuttle

1. Raise the presser bar by lifting the presser bar lifter.
2. Raise the needle bar to its highest position by turning the balance wheel toward you.
3. Pull out slide plate (Fig. 8).
4. Hold the bobbin case latch (Fig. 9) between the thumb and forefinger of the left hand, with at least three inches of thread running from the top of the bobbin case to the right. Insert and center the bobbin case on the stud of



Fig. 9



Fig. 8

the shuttle body. Be sure the bobbin case finger is opposite the shuttle race notch. Press the bobbin case into the shuttle as far as possible until latch catches on the center post of the shuttle.

5. THEN release the bobbin case latch. Press bobbin case again after latch has been released to make sure the bobbin case is locked securely in place. Close the cover plate.

Upper Thread

1. Turn the balance wheel toward you to raise the take-up lever to its highest position. (Fig. 10)
2. Place a spool of thread on the spool pin.
3. Lead the thread through the arm thread guide.
4. Run the thread down through the thread guide bar to the tension discs, then around and between them from right to left.
5. Draw the thread up through the check spring and with a slight tug into the hook. (See insert, Fig. 10)
6. Pass the thread under the bar and up through the eye of the take-up lever from right to left.
7. Lead thread down through the face plate guides and then through the needle bar guide from the back.
8. Thread needle FROM LEFT TO RIGHT, drawing it through about 3 or 4 inches.

Hold the end of upper thread loosely and turn hand wheel toward you until the needle goes all the way down and comes back up. A loop will be formed over the upper thread which then can be pulled out straight. Place both thread ends under the slot of the presser foot and draw toward the back of the machine, leaving both threads three or four inches long.

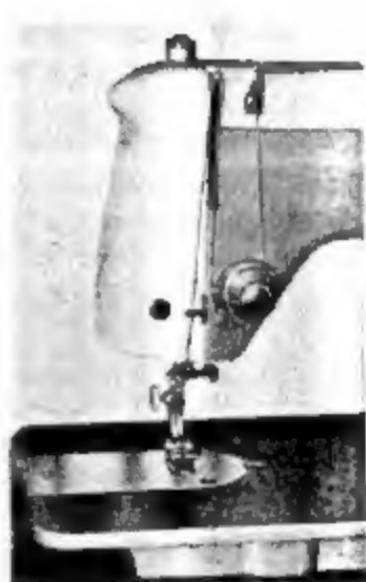


Fig. 10

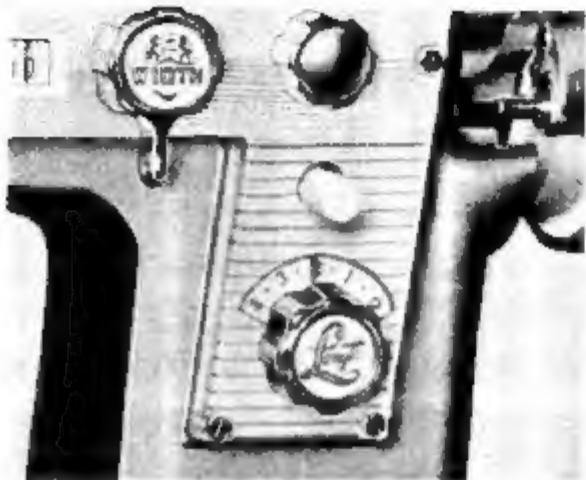


Fig. 11

Adjusting the Tensions

Always adjust the upper tension with the presser foot down, as the tension is automatically released when it is raised. To increase the tension on the upper thread, turn dial (Fig. 12) to the right, or clockwise. To decrease, turn to the left. The higher the number on the dial the tighter the tension. Before adjusting lower tension be sure that the machine is threaded properly.

When necessary to change the bobbin tension, turn small screw on side of the bobbin case clockwise to tighten, counter-clockwise to loosen.

Setting the Stitch Length

The length of the stitch is regulated by the dial, Fig. 11. Near 0 is the shortest stitch and 4 is the longest, but the dial may be set at any spot between markings for a variety of lengths. Turn the dial to the left to lengthen and to the right to shorten the stitch.

Sewing in Reverse

When you wish to sew backward to tie the threads at the beginning or end of a seam, press in the button Fig. 11, as far as it will go. The machine will sew backward as long as the button is held in.

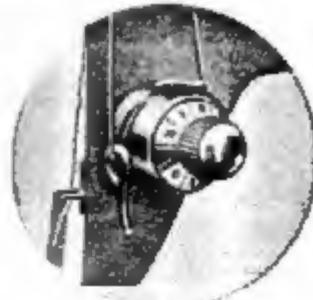


Fig. 12

When the upper and under tensions are properly balanced, a perfect stitch will be formed with both threads interlocking in fabric Fig. 13.

When the upper tension is too tight, the lower thread is pulled up over the upper thread which is lying flat on the fabric Fig. 14.

When the under tension is too tight, the upper thread forms loops over the lower thread lying flat on the fabric Fig. 15.



Fig. 6

Fig. 13



Correct Stitch

Fig. 14



Needle Thread Tension too strong

Fig. 15



Needle Thread Tension too weak

Adjusting Pressure and Feeding of Fabric

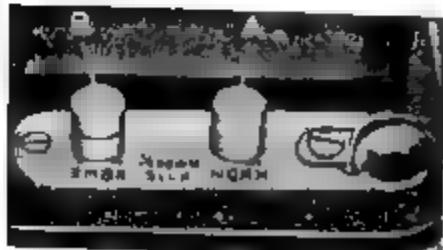


Fig. 17

GENERAL SEWING Usually for straight sewing and zigzag stitching, the pressure bar cap or darner release Fig. 16, is at its lowest position and the drop feed release button Fig. 17, is pushed all the way down.

SEWING THIN OR LIGHT WEIGHT FABRICS. When lighter pressure is required to sew satisfactorily on thin silk or filmy material, the pressure cap should be about halfway down. Release all the way by pressing the snap lock A Fig. 16, and then press cap B Fig. 18 down again to halfway spot. Lower the feed slightly by pushing the left button Fig. 17, halfway down.

DARNING AND MONOGRAMMING. In order to move the fabric freely in any direction for darning mending and certain kinds of free hand embroidery release the pressure cap B completely by pressing down on the snap lock A Fig. 16. Push left drop feed button down, which drops the feed well below the needle plate. To return feed to normal press right button all the way down.



Fig. 18

Preparing to Sew

Have take up lever at highest point before starting to sew. Do not try to help the feeding by pulling the material as this may deflect the needle and cause it to break.

NEVER run machine without material under presser foot.

Place material and threads in position under the presser foot and lower the presser foot. Turn the hand wheel toward you until the needle is at its highest point. You are now ready to begin sewing. By having the needle at its highest point, it is not necessary to touch the hand wheel to start the machine. You merely press the control. The speed of the machine is regulated by increasing or decreasing the amount of pressure exerted on the control.

Removing the Work

Be sure to stop the machine when the thread take up lever and needle bar are located at the highest position. Now raise the presser foot and draw the fabric back and to the left, Fig. 19 and 20 and pass the threads over the thread cutter. Pull down slightly, holding thread in both hands, so as not to bend the needle. Leave the ends of thread under the presser foot.

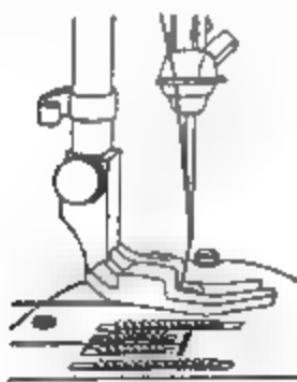


Fig. 19

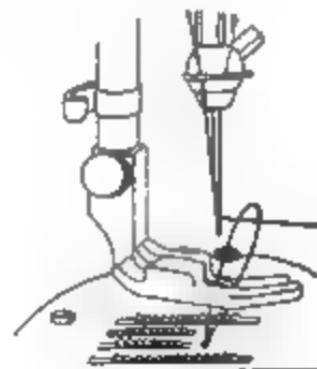


Fig. 20

Regulating Width of Zig-Zag Stitch

The width of the zigzag stitch is regulated by the zigzag width dial (Fig. 21). By turning the zigzag width dial, the zigzag width indicator appearing in the zigzag width window will move from 0~4 and the width of the zigzag stitch will increase accordingly. In order to revert to the previously used zigzag width, for example, for sewing on buttons, making buttonholes, tacking etc. use the limiting dial located above the zigzag width window. Untighten the limiting dial by turning the lock screw to the left. The limiting dial can be moved freely and set at the desired stitch width number. Tighten the limiting dial and fix them at the desired stitch width number by turning the lock screw to the right.

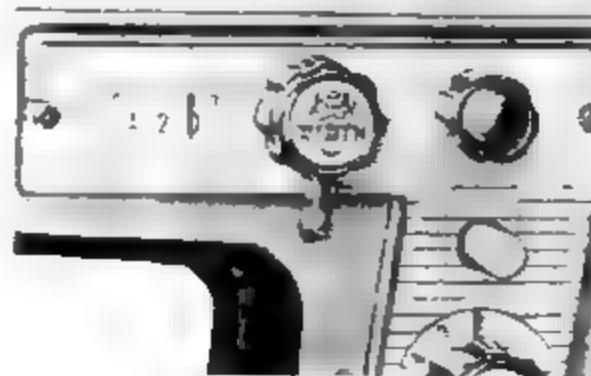


Fig. 21

Embroidering With a Hoop

It is easy to follow a stamped design or to work free hand when embroidering or monogramming. See Fig 22) Release the pressure from the foot by pressing down the snap lock on the automatic darning. Push the drop feed button to down position.

Stretch the fabric in an embroidery hoop, and place under the needle after removing the presser foot. Set the stitch width at the size you prefer and lower the presser bar lifter. Then operate the machine at a rather high speed while moving the hoop slowly both hands. Work carefully and be sure to keep fingers out of the path of the needle.



Fig. 22

Darning

Release pressure from foot and drop feed as directed above

Place fabric to be mended under foot, and stitch around hole, moving the fabric firmly and slowly in any direction. To fill in the hole, stitch from center outward, completing the stitching in fabric.

Making Buttonholes

First mark the beginning and end of the buttonhole on fabric with a basing line or tailor's chalk. Make one on scrap fabric (following directions below) to be sure machine adjustments are correct.

1. Replace presser foot with buttonhole foot which is grooved deeply underneath to prevent plumping up of the thread (See Fig. 23).
2. Look the stitch width at 2 and set the stitch length near 0.
3. Lower needle carefully into the mark on fabric indicating the beginning of buttonhole. Stitch to the mark for the end of the buttonhole, step 1, Fig. 24, stopping machine with needle in fabric at right side of stitching.
4. Lift the presser foot and using the needle as a pivot, turn the fabric end for end.
5. Lower presser foot and turn hand wheel just enough to raise needle out of fabric.
6. Drop feed all the way down and move zigzag dial to 5. While holding the dial at 5 width, take five or six stitches to form bar tack, step 2, Fig. 24.
7. Raise needle out of fabric and return feed to "C P" position and let stitch width dial return to 2.
8. Stitch second side of buttonhole, step 3.
9. Make bar tack by repeating 5 and 6 above (step 4).
10. Return stitch width to 0 and take two or three stitches to fasten bar threads and prevent raveling. Cut the buttonhole opening with a seam ripper, being careful not to cut the stitching.



Fig. 23

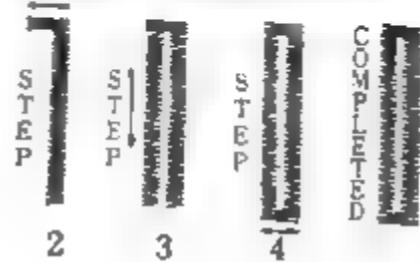


Fig. 24

If you plan to make buttonholes on sheer or soft material, place tarlatan or paper which can be torn away after stitching, under the fabric. And it is always wise to make several buttonholes on scraps of fabric before working on the garment.

Sewing on Buttons

1. Remove hinged presser foot and attach button sewing foot. (See Fig. 25)
2. Drop feed to down position
3. Move zigzag width dial to '0' position or to the extreme left. Place the button so that its left hole comes directly under the needle, then gently lower the presser foot. Move the zigzag outer dial to the right until the needle come exactly over the right hole of the button. Turn the balance wheel slowly by hand to be sure the needle clears both holes of the button. Correct width if necessary, then lock in place.
4. When needle goes into the center of each hole run the machine at medium speed, making five or six stitches, stopping with the needle in the left hole.
5. To lock the zigzag stitch and prevent raveling, set the stitch width at 0, and take a few stitches in the same hole. If you wish you may place a rounded toothpick over the button, between the two holes, and sew button to fabric in regular way. Remove the toothpick and wind thread under button, forming a shank. Fasten.

Apply the above method to sew on buttons with four holes, hooks and snaps, etc.

If a four hole button is to be sewn, follow the same procedure above for the two hole button. Now lift presser foot slightly and move fabric to permit stitching the remaining two holes. Hooks, snaps, etc., are sewn to the fabric with the same procedure as for sewing two hole buttons.



Fig. 25

How to Use Accessories

NARROW HFMMER. With the needle at its highest position, replace regular presser foot with narrow hemmer (Fig. 26). For a plain narrow hem, make a $1/8$ inch double fold for about two inches along of fabric. Hold each end of the two inch fold, slip underneath hemmer. Bring fold up into the scroll of hemmer, draw forward to end and fasten with point of needle. Lower presser bar lifter. Gently pull ends of thread as you stitching.

Guide material slightly to right, and it will automatically take a double turn through scroll.

LACE TRIMMED HEM. To sew a narrow hem and attach lace in one stitching, insert lace in the slot next to needle. Sew hem as above, guiding lace under needle and hem into scroll.

LACE EDGE WITH INVISIBLE STITCHING. Hold lace $1\frac{1}{8}$ inch from raw edge on right side of fabric. Insert both in scroll as for plain narrow hem. Let hem roll over and sew in lace. Press lace out flat along edge with hem turned up. It is possible to have a little fullness in lace by feeding it freely under scroll.

FRENCH SEAM. With right sides together, place top piece of material $1/8$ inch inside edge of lower piece. Insert in hemmer scroll, allowing hem to roll over and sew in top fabric, making French seam.

FLAT FELLED SEAM. Open out French seam and insert rolled edge in scroll of hemmer. Edgestitch to lay seam flat.

HAND ROLLED EFFECT. Use a narrow zigzag stitch, just wide enough to catch both edges of the narrow, rolled hem.

QUILTING GUIDE. This guide for making parallel rows of stitching is attached by placing the pronged holder between the presser foot and the presser foot thumb screw (Fig. 27).

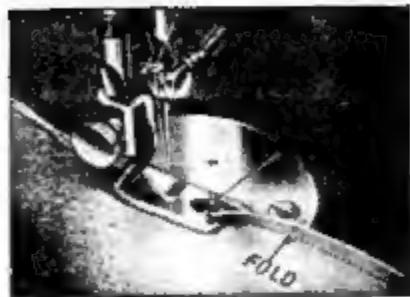


Fig. 26

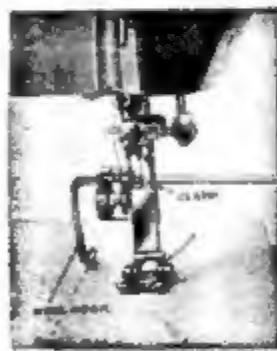


Fig. 27

Adjust the curved bar to press lightly on the fabric.

By letting the guide ride on the first stitching line, successive rows will be an equal distance apart.

When the bar is attached so that the curved part is to the right of the needle, it may also serve as a seam width guide.

SEAM GAUGE OR CLOTH GUIDE. Use the seam gauge as a guide for straight seams and even rows of top stitching along edges of fabric. Fasten gauge with accompanying screw in threaded hole in needle plate or in bed of machine (Fig. 28). Adjust to seam width desired.

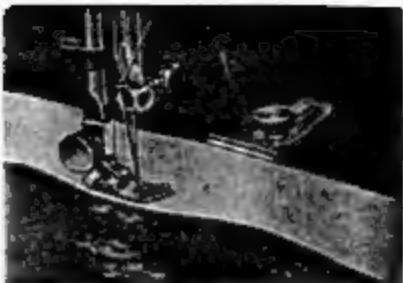


Fig. 28

Care and Maintenance of Your Machine

HOW TO OIL YOUR MACHINE

Your machine should be oiled occasionally to keep it operating smoothly-how often depends on the amount of sewing you do.

Before oiling the upper part of the sewing unit at points indicated by arrows in Fig. 29, turn hand wheel toward you until the take-up lever is at its lowest point.



Fig. 29

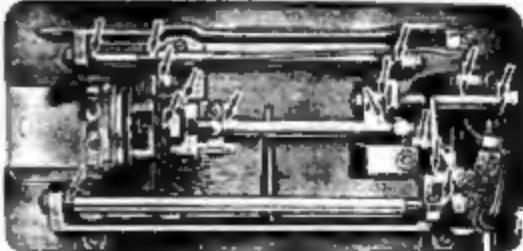


Fig. 30

Avoid over oiling. Only a drop is needed at each point.

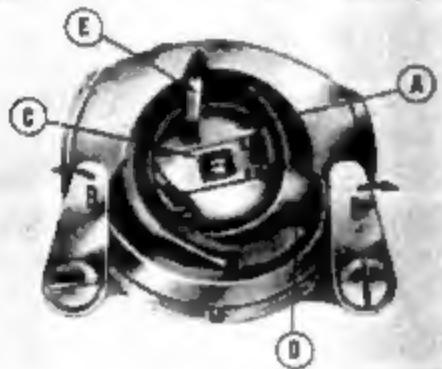
To oil parts under the bed of the machine, tip the unit back on its hinges and apply a drop of oil at each point indicated in Fig. 30.

Cleaning and Oiling the Shuttle

(See Figs. 31 and 32)

The stitch forming mechanism occasionally becomes clogged with loose threads and lint. This will interfere with the efficient operation of the machine. Cleaning and removal of the lint will safeguard the performance.

To remove the shuttle assembly, proceed as follows:



1. Turn the balance wheel until the needle reaches its highest position. Tilt head back on its hinges.
2. Remove bobbin case (A), Fig. 31.
3. Turn the two shuttle race cover clamps (B) outward and remove the shuttle race cover (C) and shuttle body (D).

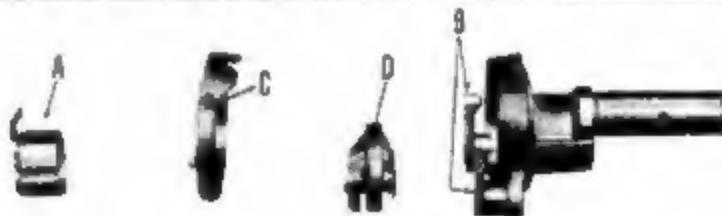


Fig. 31

Fig. 32

4. Clean the shuttle race, the shuttle, and shuttle race cover by removing all threads, lint, etc.
5. Apply a drop of oil with finger tip to outer edge of shuttle.

When the cleaning has been completed, proceed as follows to replace the shuttle assembly:

1. Turn the balance wheel until the needle reaches its highest position.
2. Place shuttle body, (D), against shuttle driver and adjust into position.
3. Replace shuttle race cover, (C), fitting pin at lower edge into notch, and lock into position with shuttle race cover clamps, (B), making certain the clamps have been snapped securely into position.
4. Put bobbin into bobbin case.
5. Put the bobbin case into the shuttle race, fitting tongue into notch E of race cover.

Check Up for Smooth Sewing

Although your sewing machine is designed for maximum efficiency, should any of the following difficulties occur they can be remedied with minor adjustments.

Upper Thread Braks

- Be sure needle is inserted properly.
- Check on correct way to thread machine.
- Use correct needle size for thread.
- Do not have upper tension too tight.

Lower Thread Breaks

- Check correct method of threading bobbin case.
- Be sure lower tension is not too tight.

Needle Breaks

- Do not tug or pull on the fabric while sewing as this will bend and eventually break the needle.
- Be sure presser foot is firmly attached to bar.

Skipped Stitches

- Do not use a blunt or bent needle.
- Insert needle correctly.
- Use correct needle size for thread.
- Be sure pressure on foot is sufficient when sewing heavy fabrics.

Stitches Loop

- Make sure tensions are properly balanced and that machine is threaded correctly.

Machine Binds

- Clean thread, dust and lint from hook, shuttle and race.
- If condition continues, it may be that the machine is gummy with oil. Apply kerosene to oil holes, run rapidly for a while, and wipe dry. Then lubricate again with fine sewing machine oil.